

| | | | | | | |
|----------|----|--|---|----|-----|------------------|
| S14 0 | 0 | pilcher-michael.in. and (attenuat\$3 near amplitude\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 15:39 |
| S14 1 | 0 | pilcher-michael.in. and (attenuat\$3 same amplitude\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 15:40 |
| S14 2 | 0 | pilcher-e-michael.in. and (attenuat\$3 same amplitude\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 15:40 |
| S14 3 | 1 | pilcher-michael-e.in. and (attenuat\$3 same amplitude\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 15:40 |
| S14 4 | 7 | (southwest adj2 research adj2 institute.as.) and (attenuat\$3 same amplitude\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 15:41 |
| S14 5 | 1 | S144 and (select\$3 near amplitude\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 15:41 |
| S14 6 | 6 | (southwest adj2 research adj2 institute.as.) and (attenuat\$3 with amplitude\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 15:42 |
| S14 7 | 0 | S146 and (select\$3 near amplitude\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 15:42 |
| S14 8 | 14 | 375/296.ccls. and (select\$3 near amplitude\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 15:42 |
| S14 9 | 1 | S148 and (attenuat\$3 with amplitude\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 15:42 |
| S15 0 | 1 | S135 and envelope | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 16:23 |
| S15 1 | 0 | "6335951".pn. and control\$4 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/20 15:13 |

| | | | | | | |
|----------|---------|---|---|----|-----|------------------|
| S15 2 | 0 | "6335951".pn. and memory | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/20 15:39 |
| S15 3 | 1183355 | "6335951".pn. and analog or digital | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/20 15:39 |
| S15 4 | 1 | "6335951".pn. and (analog or digital) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/20 15:39 |
| S15 5 | 58 | 375/295-297.ccls. and ((pre adj2 distort\$3) with amplitude) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 11:15 |
| S15 6 | 35 | S155 and modulator | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 11:10 |
| S15 7 | 19 | S156 and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 11:18 |
| S15 8 | 14 | S157 and (select\$3) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 11:18 |
| S15 9 | 7 | 375/295-297.ccls. and ((pre adj2 distort\$3) with (select\$3 with amplitude)) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 11:17 |
| S16 0 | 4 | S159 and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 11:17 |
| S16 1 | 14 | 375/295-297.ccls. and ((pre adj2 distort\$3) same (select\$3 with amplitude)) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 13:45 |
| S16 2 | 7 | S161 and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 11:17 |
| S16 3 | 6 | S155 and (select\$3 adj2 input\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 13:46 |

| | | | | | | |
|----------|-----|---|---|----|-----|------------------|
| S16 4 | 2 | S163 and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 13:46 |
| S16 5 | 289 | 375/295-297.ccls. and (((pre adj2 distort\$3) or attenuat\$3) same (amplitude\$1)) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 14:04 |
| S16 6 | 18 | S165 and (select\$3 adj2 input\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 13:47 |
| S16 7 | 11 | S166 and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 14:26 |
| S16 8 | 76 | S165 and (select\$3 with input\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 14:15 |
| S16 9 | 52 | S168 and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 14:16 |
| S17 0 | 87 | 375/295-297.ccls. and (((pre adj2 distort\$3) or attenuat\$3) with input\$1) same amplitude\$1 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 14:05 |
| S17 1 | 10 | 375/295-297.ccls. and (select\$3 with ((pre adj2 distort\$3) or attenuat\$3) with input\$1) same amplitude\$1 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 14:07 |
| S17 2 | 6 | S171 and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 14:05 |
| S17 3 | 2 | 375/295-297.ccls. and (select\$3 with (((pre adj2 distort\$3) or attenuat\$3) adj2 amplitude\$1)) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 14:08 |
| S17 4 | 0 | 375/295-297.ccls. and (select\$3 adj2 (((pre adj2 distort\$3) or attenuat\$3) adj2 amplitude\$1)) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 14:15 |
| S17 5 | 143 | 375/295-297.ccls. and (attenuat\$3 with amplitude\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 14:25 |

| | | | | | | |
|----------|----|---|---|----|-----|------------------|
| S17 6 | 36 | S175 and (select\$3 with input\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 14:16 |
| S17 7 | 27 | S176 and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 14:16 |
| S17 8 | 13 | S177 and (attenuat\$3 with input\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 14:16 |
| S17 9 | 0 | 375/295-297.ccls. and ((attenuat\$3 with amplitude\$1) near (select\$3 adj2 input\$1)) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 14:25 |
| S18 0 | 2 | 375/295-297.ccls. and ((attenuat\$3 with amplitude\$1) same (select\$3 adj2 input\$1)) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 14:26 |
| S18 1 | 81 | ((attenuat\$3 with amplitude\$1) same (select\$3 adj2 input\$1)) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 14:26 |
| S18 2 | 81 | ((attenuat\$3 with amplitude\$1) same (select\$3 adj2 input\$1)) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 15:52 |
| S18 3 | 75 | S182 and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 15:48 |
| S18 4 | 29 | S183 and ((plurality or multiple or two or many) adj2 input\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 15:48 |
| S18 5 | 81 | ((attenuat\$3 or (pre adj2 distort\$3)) with amplitude\$1) same (select\$3 adj2 input\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 15:49 |
| S18 6 | 31 | S185 and ((plurality or multiple or two or many) adj2 input\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 15:50 |
| S18 7 | 29 | S186 and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 15:50 |

| | | | | | | |
|----------|------|---|---|----|-----|------------------|
| S18 8 | 3714 | modulator with ((pre adj2 distort\$3) or attenuat\$3) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 15:49 |
| S18 9 | 857 | S188 and((attenuat\$3 or (pre adj2 distort\$3)) with amplitude\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 15:50 |
| S19 0 | 167 | S189 and ((plurality or multiple or two or many) adj2 input\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 15:50 |
| S19 1 | 123 | S190 and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 15:50 |
| S19 2 | 357 | S188 and((attenuat\$3 or (pre adj2 distort\$3)) with amplitude\$1) same input\$1 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 15:54 |
| S19 3 | 263 | S192 and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 15:55 |
| S19 4 | 68 | S193 and ((plurality or multiple or two or many) adj2 input\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 15:55 |
| S19 5 | 8 | S194 and (select\$3 near input\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 15:52 |
| S19 6 | 165 | S188 and((attenuat\$3 or (pre adj2 distort\$3)) with (amplitude\$1 and select\$3)) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 15:55 |
| S19 7 | 165 | S188 and ((attenuat\$3 or (pre adj2 distort\$3)) with (amplitude\$1 and select\$3)) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 16:10 |
| S19 8 | 41 | S197 and ((plurality or multiple or two or many) adj2 input\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/11 10:27 |
| S19 9 | 30 | S198 and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 16:10 |

| | | | | | | |
|----------|-----|--|---|----|-----|------------------|
| S20 0 | 10 | 375/298.ccls. and ((attenuat\$3 or (pre adj2 distort\$3)) with (amplitude\$1 and select\$3)) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 17:24 |
| S20 1 | 123 | S190 and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 16:11 |
| S20 2 | 9 | S200 and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 17:24 |
| S20 3 | 3 | S202 and (modulat\$3 adj2 input adj2 signal\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 16:11 |
| S20 4 | 0 | (scalar adj2 modulat\$3) same ((plurality or multiple or two or many) adj2 input\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 17:23 |
| S20 5 | 6 | (scalar adj2 modulat\$3) and ((plurality or multiple or two or many) adj2 input\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 17:24 |
| S20 6 | 5 | S205 and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 17:27 |
| S20 7 | 2 | S206 and (attenuat\$3 or (pre adj2 distort\$3)) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 17:26 |
| S20 8 | 394 | 455/126.ccls. and (attenuat\$3 or (pre adj2 distort\$3)) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 17:26 |
| S20 9 | 85 | 455/126.ccls. and ((attenuat\$3 or (pre adj2 distort\$3)) with amplitude\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 17:27 |
| S21 0 | 7 | S209 and (select\$3 near (amplitude\$1 or input\$1)) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 17:27 |
| S21 1 | 6 | S210 and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/10 17:27 |

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|-------|------|---|---|------------------|---------|------------------|
| L1 | 2593 | ((modulat\$3 with (attenuat\$3 or (pre adj2 distort\$3))) same amplitude) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/11 10:41 |
| L2 | 76 | 1 and (constant adj2 envelop\$3) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/11 10:39 |
| L3 | 15 | 2 and (attenuat\$3 with select\$3) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/11 10:35 |
| L4 | 9 | 3 and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/11 10:35 |
| L5 | 0 | 4 and ((plurality or multiple or two or many) adj2 input\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/11 10:39 |
| L6 | 8 | 2 and (attenuat\$3 with (select\$3 and amplitude\$1)) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/11 10:35 |
| L7 | 4 | 6 and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/11 10:39 |
| L8 | 962 | (attenuat\$3 with amplitude\$1) with select\$3 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/11 10:38 |
| L9 | 980 | ((attenuat\$3 or (pre adj2 distort\$3)) with amplitude\$1) with select\$3 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/11 10:38 |
| L10 | 201 | 9 and ((plurality or multiple or two or many) adj2 input\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/11 10:39 |
| L11 | 3 | 10 and (constant adj2 envelop\$3) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/11 10:41 |
| L12 | 1 | 11 and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/11 10:39 |

| | | | | | | |
|-----|----|---|---|----|-----|------------------|
| L13 | 0 | "332".ccls. and (constant adj2 envelop\$3) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/11 10:41 |
| L14 | 0 | "332".ccls. and ((modulat\$3 with (attenuat\$3 or (pre adj2 distort\$3))) same amplitude) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/05/11 10:41 |
| S1 | 1 | pilcher-michael-e.in. and ((combin\$3 adj2 signal\$1) same envelop\$3) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 15:40 |
| S2 | 1 | (southwest adj2 research. adj2 institute.as.) and ((combin\$3 adj2 signal\$1) same envelop\$3) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 15:40 |
| S3 | 10 | 375/296.ccls. and ((combin\$3 adj2 signal\$1) same envelop\$3) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2004/09/30 13:55 |
| S4 | 2 | (375/296.ccls. and ((combin\$3 adj2 signal\$1) same envelop\$3)) and (attenuat\$3) and (constant adj2 envelope) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2004/09/29 10:48 |
| S5 | 1 | ((375/296.ccls. and ((combin\$3 adj2 signal\$1) same envelop\$3)) and (attenuat\$3) and (constant adj2 envelope)) and @ad<"20010518" | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2004/09/29 10:51 |
| S6 | 0 | ((375/296.ccls. and ((combin\$3 adj2 signal\$1) same envelop\$3)) and (attenuat\$3) and (constant adj2 envelope)) and @ad<"20010518") and (attenuat\$3 near select\$5) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2004/09/29 11:38 |
| S7 | 1 | ((375/296.ccls. and ((combin\$3 adj2 signal\$1) same envelop\$3)) and (attenuat\$3) and (constant adj2 envelope)) and @ad<"20010518") and (select\$5) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2004/09/29 10:52 |
| S8 | 5 | 375/296.ccls. and (attenuat\$3 near select\$5) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2004/09/30 13:56 |
| S9 | 2 | (375/296.ccls. and (attenuat\$3 near select\$5)) and envelop\$3 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2004/09/29 11:39 |

| | | | | | | |
|----------|-----|---|---|----|-----|------------------|
| S12 8 | 1 | (((((375/298.ccls.) and attenuat\$3) and ((correlat\$3)) and select\$3 and compar\$3) and @ad<"20010518") and (constant or composite) adj2 envelop\$3 adj2 signal\$1 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2004/09/30 15:29 |
| S12 9 | 6 | (((((375/298.ccls.) and attenuat\$3) and ((correlat\$3)) and select\$3 and compar\$3) and @ad<"20010518") and (envelop\$3 adj2 signal\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2004/09/30 15:29 |
| S13 0 | 1 | "6335951".pn. and ((correlat\$3)) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2004/09/30 18:11 |
| S13 1 | 1 | ("6335951".pn. "6445749".pn.) and (control\$5 and memory) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2004/09/30 18:12 |
| S13 2 | 2 | "6445749".pn. | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 15:30 |
| S13 3 | 2 | "6335951".pn. | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 15:35 |
| S13 4 | 559 | "132" and attenuat\$3 near amplitude\$1 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 15:30 |
| S13 5 | 2 | "6445749".pn. | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 16:23 |
| S13 6 | 0 | S135 and attenuat\$3 near amplitude\$1 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 15:35 |
| S13 7 | 1 | S135 and (attenuat\$3 and amplitude\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 15:31 |
| S13 8 | 2 | "6335951".pn. | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 15:35 |
| S13 9 | 0 | S138 and attenuat\$3 near amplitude\$1 | US-PGPUB; USPAT; EPO; JPO; DERWENT | OR | OFF | 2005/04/19 15:39 |

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☒ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.